

Evaluating a Palliative Care Case Management Program for Cancer Patients: The Omega Life Program

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Abstract

Purpose: This study evaluated a cancer case management pilot program focusing on palliative care, the Omega Life Program (OLP), by assessing whether the program was associated with reduced hospital utilization.

Methods: A retrospective observational study of patients with cancer who enrolled in the OLP (intervention) compared to those who chose not to enroll (comparison) from January 1, 2005 to February 28, 2007. Patients were included in the primary analyses if they died by the end of the study period and were enrolled in the program at least 1 week before death. Patients were followed from the time of referral until death. Outcomes included whether or not the patients had any admissions during this period and, for patients with at least one admission, the total number of inpatient hospital admissions, inpatient days, and hospital costs.

Results: Approximately 75% of eligible patients enrolled in the OLP; 60% were older than 50 and 60% were female. Of included patients in the intervention group ($n = 69$), 59% had no admissions compared to 15% of patients in the comparison group ($n = 20$). However, among patients who had at least one admission, the mean number of hospital admissions, inpatient days, and hospitals costs were not significantly different between the groups.

Conclusions: In this pilot study, patients in the OLP had significantly reduced odds of having any hospital admissions compared to those in usual care. This type of program may improve outcomes for patients, but further research is needed to evaluate outcomes using larger samples and more rigorous study designs.

Introduction

IN THE UNITED STATES, despite evidence that palliative care and hospice interventions improve the quality of end-of-life care,¹ most patients do not receive these services or receive them only in the last days of life. In 2006, only 36% of deaths were under the care of a hospice program, and the median length of stay in hospice care was 20.6 days.² Most currently available palliative care programs are focused on inpatient services, and most patients receive services only at the time of a terminal hospitalization. Patients may have a variety of care needs before the last weeks of life that are not well served in the current health care system and could be addressed by palliative care, including care coordination, care planning, and symptom management.

Palliative care case management programs could fill the care gap for these needs between diagnosis and the weeks before death. However, few of these programs are currently available, particularly since they may not fit well in many

care or insurance structures, and their key elements, effectiveness, and cost-effectiveness have not been well-established.

The Case Management Society of America defines case management as a collaborative process of assessment, planning, facilitation and advocacy for options and services to meet an individual's health needs through communication and available resources to promote quality cost-effective outcomes.³ This approach aligns itself well with a palliative care approach, which also has coordination, communication, and patient-centeredness as its core principles. Patients with cancer in particular can benefit from palliative care case management programs, as there are significant needs for coordination of care between multiple providers and their disease progressions may follow a more predictable trajectory and thus care needs can be more easily anticipated.⁴ Two randomized controlled trials of palliative care programs with case management components have demonstrated patient benefits, although results for reducing health care uti-

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lization were mixed, and the studies did not focus on cancer or underserved populations.^{5,6} An observational study of cancer case management in the Veteran's Health Administration (VA) system also found decreased utilization for some patients enrolled in the program.⁷

In this study, we evaluated a palliative care case management pilot program for cancer patients in a managed-care Medicaid population. In particular, we evaluated the patterns of use of the program and the potential for using utilization outcomes data from the managed care organization for measuring the impact of the program, patterns of care, and potential areas for further service development.

Methods

The Omega Life Program

The Omega Life Program (OLP) is a palliative care case management program for patients facing a potentially life-threatening cancer illness. The pilot program is run by the care management department of a large employer-based managed care organization in Maryland. Eligible patients are those with active cancer from the beginning of diagnosis to hospice, although most are undergoing active radiation or chemotherapy or are near the end-of-life. Patients are identified through physician referral, patient outreach, or health care claims. Providers, as well as the managed care organization's utilization management and clinical screener groups, are encouraged to refer all patients with cancer at any point in the continuum of their cancer to the OLP. The program began in December 2002 and serves approximately 100 patients at any time.

Nurse case managers lead the program and provide an initial and ongoing holistic assessment of physical, psychosocial, and spiritual needs of the patient and family. Case managers educate patients and families about various topics, including advance directives, hospice options, insurance and prescription benefits, symptom management, etc. Patients and families are taught to contact the case managers for information and needs rather than for emergencies, and can contact them 7 days a week, from 8:00 AM to 9:00 PM. Patients and families often require ongoing education over the course of the illness and are followed by the case manager from enrollment until death or discharge.

The case managers also coordinate care between multiple providers, which becomes increasingly important when numerous specialists are involved. The interdisciplinary communication and reporting between case managers and providers facilitate a seamless set of supportive and medical services for patients. Case managers serve as a main contact person of the care team for the patients and family, communicating patient preferences and arranging services, such as hospice and community services. They also integrate various providers into the care team, including social workers, clergy, and financial counselors. By removing system barriers, closing communication gaps and smoothing out processes, they help the patients and families navigate the health system. Some examples include obtaining medications, expediting reports, clarifying information provided during physician visits, explaining insurance issues and billing details, and arranging for transportation to doctor appointments. Additionally, case managers help patients prepare for death psychosocially by enabling them to find closure in relationships and place their affairs in order.⁸ In these ways, palliative care case managers can potentially affect the quality of life and hospital utilization of patients in the late stages of life. The narratives described in the Case Study Text Boxes serve as examples to illustrate this.

Subjects

We used a retrospective cohort study design, using a non-equivalent comparison group, beginning January 1, 2005 to February 28, 2007. The study population comprised of enrollees of a Maryland-mandated Medicaid insurance program administered by the managed care organization. Patients were included if they had a current cancer diagnosis, were over 18 years old, had a date of enrollment or refusal to the program, and had a confirmed date of death while insured under the managed care organization. Patients who enrolled in the OLP (intervention) were compared to patients referred to the OLP but who elected not to enroll (comparison). Patients were classified based on their initial enrollment status. Patients in the comparison group received usual care, which consisted of physician care and support from the customer service department of the managed care organization

CASE STUDY TEXT BOX

Case Example: Enrolled in Case Management

A woman in her 50's with pancreatic cancer enrolled in the case management program 1 month after diagnosis. At the first meeting, the patient explained she knew her cancer could not be cured. The case manager described her navigator role, educated her about hospice as an option, and educated about advance directives. A social worker came to meet with the patient and her husband because one of the patient's goals was to teach her husband how to pay bills because he had never done this. The patient had issues with taking pain medication due to anxiety about becoming addicted; the case manager educated her about this. The case manager served as a patient navigator through treatment, including a procedure for pain control and helping with nutrition support. The patient enrolled in hospice care and died at home.

Case Example: not Enrolled in Case Management

A patient with lung cancer had 9 hospitalizations over a 4¹/₂ month period for a total of 64 days, including one for complications of treatment; the last two were in the intensive care unit, including a final 9-day hospital stay.

without the case management or palliative care support as described above. Patients were excluded if they were referred to the program for 1 week or less, because 1 week was deemed too short of a time to benefit from the case management intervention (12 excluded from intervention group; 11 excluded from comparison group).

Data sources and outcomes of interest

The data sources were administrative data previously collected for clinical and billing purposes, as well as a clinical database maintained on the OLP participants. The databases included age, gender, and cancer diagnosis. Outcomes of interest included the total number of hospital admissions from the referral date until the date of death, and the respective cumulative total inpatient days spent in hospital and total cost of all inpatient admissions.^{9,10} Total cost of admissions included both the institutional and professional paid by the managed care organization.

We tabulated the number of patients with none, one, two, or more admissions by whether or not the patient enrolled in OLP. For those with admissions, we examined the mean number of admissions, cumulative total inpatient days, and total costs. Analyses also included calculating the odds of having one or more hospital admissions by the dependent variable, enrollment in OLPe, while controlling for the independent variables of age, gender, and time since referral date. Time since referral was calculated as the number of days from the referral date to the date of death and assigned into time categories.

We also performed several sensitivity analyses that comprised calculating the odds of having two or more admissions, including patients who were referred for one week or less, and including patients without a date of death substituting the date of the last claim, end of the study date, or date of disenrollment from insurance for the death date.

TABLE 1. COMPARISON OF PATIENTS IN THE OMEGA LIFE PROGRAM AND COMPARISON GROUP

	<i>Omega Life</i>		<i>Comparison</i>	
	N	%	N	%
Enrollment	69	78%	20	22%
Mean age at referral (SD)	50.2	(10.54)	53.8	(10.58)
Age category				
18–49	30	44%	6	30%
50–59	25	36%	7	35%
60–69	14	20%	7	35%
Female	41	59%	12	60%
Cancer diagnosis				
Lung	18	26%	10	50%
Colorectal/gastrointestinal	16	23%	4	20%
Head/neck	9	13%	3	15%
Breast	8	12%	1	5%
Other	18	26%	2	10%
No. of admissions				
No. with 0 admissions	41	59%	3	15%
No. with 1 admission	8	12%	6	30%
No. with ≥2 admissions	20	29%	11	55%

SD, standard deviation.

TABLE 2. ELAPSED TIME FROM PROGRAM REFERRAL UNTIL DEATH IN DAYS

	<i>Omega Life</i>		<i>Comparison</i>	
	N	%	N	%
Time Since Referral (days)				
1–7 ^a	12	15%	11	35%
8–30	28	34%	3	10%
31–120	20	25%	8	26%
121+	21	26%	9	29%

^aThese patients were excluded from the study and analyses, but are reported here for comparison.

Results

Overall there were 89 patients who met the inclusion criteria, approximately three fourths (78%) of whom enrolled in the OLP ($n = 69$) compared to the comparison group (usual care; $n = 20$). Demographic variables are summarized in Table 1. Patients in both groups were about the same age at referral, mostly over the age of 50, and mostly female. Lung cancer was the most common diagnosis for both groups, but comprised half of the control group ($n = 10$) compared to approximately a quarter of the intervention group ($n = 18$). For the patients enrolled in the OLP, nearly two thirds (41/69) had no admissions compared to 15% (3/20) in the comparison group. Almost a third of patients (20/69) enrolled in the OLP had two or more admissions compared to over half of patients (11/20) in the comparison group.

The patient's time from referral to the OLP until date of death is summarized in Table 2. 21% of patients ($n = 23$) were referred to the program within one week before death (though these patients were excluded from the study); these late referrals were less likely to enroll in OLP (15%) than those in the comparison group (35%). Almost half (48%) were referred within a month of death and over a quarter of patients (27%) were referred to the program more than than 4 months from death.

Hospital utilizations

Those enrolled in the OLP had 86% less odds of having one or more hospital admissions versus those in the comparison group, controlling for time since referral, age, and gender ($p = 0.006$; Table 3). The reference group was males in the comparison group, aged 18–49, with between 8–30 days since referral. Moreover, sensitivity analyses showed similar results in the same direction. When including patients referred to the program one week or less from death, the odds of having one or more hospital admissions was 62% less for those in OLP than in the comparison group ($p = 0.067$).

For those with any admissions ($n = 45$), the hospital utilizations did not significantly differ between the two intervention groups: the mean number of hospital admissions was 2.92 and 2.23 ($p = 0.321$), mean cumulative inpatient days was 15.61 and 13.29 ($p = 0.561$), and mean total costs for all admissions was \$42,265 and \$29,567 ($p = 0.277$) for those in the OLP and comparison group respectively.

TABLE 3. ODDS OF HAVING ONE OR MORE ADMISSIONS BY GROUP

	Odds ratio ^a	p value	95% CI
Omega Life Program enrollment	0.138	0.006	0.03–0.57
Time category since referral	1.011	0.001	1.00–1.02
Age category	1.527	0.234	0.76–3.07
Female	3.187	0.039	1.06–9.61

^aReference category: Comparison group, between 8–30 days since referral, 18–49 years old, male. CI, confidence interval.

Discussion

The OLP successfully provided case management, focused on palliative care, to patients with cancer in a Medicaid managed care program. Nearly three fourths of patients referred to the program chose to enroll. The system for program referrals identified some patients early enough that 27% were enrolled in the program for at least 4 months; still, approximately one fifth were referred to the program less than 1 week before their death. We also found that among patients who died and had been referred to the program at least 1 week before death, enrollment in the case management program was associated with significantly lower odds of having one or more hospital admissions compared to usual care. However, those who were admitted had similar numbers of admissions, lengths of stay, and costs as those in usual care.

This program utilizes many of the same components as other case management programs for those with advanced illness, but serves a Medicaid oncology population. The OLP uses nurse case managers who, as in many other programs, act as coordinators and educators for patients and families, focusing on coordinating medical care, care planning, and psychosocial issues for the patient and family. The case managers introduce care planning and hospice benefit information early, and communicate and collaborate with patients and families, multiple providers, and an interdisciplinary team to improve coordination of supportive and medical services. By helping patients and families manage pain and symptoms, answer questions about treatment options and medications, make informed decisions, and coordinate care among multiple providers, the case managers may help to anticipate and avoid problems that if left unresolved might lead to a hospitalization.

Our study is similar in some ways to other studies of case management programs for patients with advanced illness, but there are also important differences. A randomized trial of the Advanced Illness Coordinated Care Program, a program where patients with advanced illness met with a health professional in a series of structured sessions to facilitate communication, coordinate care, help with advance directive completion, and provide psychosocial support, showed that patients in the intervention arm were more satisfied with care and communication and were more likely to complete an advanced directive than those in the comparison group.⁵ There were no significant differences in costs, and the study did not examine hospitalization rates as an outcome. A study in two health maintenance organizations found that patients randomized to a home-based palliative care program, where an interdisciplinary team provided pain and symptom relief, patient and family education and training, and an array of medical and social support services, reported increased sat-

isfaction and decreased hospital utilization, including emergency department visits, skilled nursing facility days, and physician visits.⁶ These resulted in significantly lower costs of care for patients in the palliative care program. An observational study of cancer case management in the VA also found an association with lower end-of-life acute care utilization in the case management group only for patients enrolled in the program for at least two months.⁷ The case management group also had lower rates of death in an acute care setting and higher rates of chemotherapy.

The limitations of the study include the nonrandomized comparison of the patient groups. Those who chose to enroll in the program might have been different from those who chose not to enroll; more patients in the control group had lung cancer and they might have also been different in ways we could not measure, such as patient preferences or severity of illness. As well, use of administrative claims data is limited, especially for patients without continuous insurance coverage since they would not have adequate follow-up data. Some data were not available, such as hospice admission and outpatient utilization. Finally, this is a single-site study, with a small sample size; further research with a larger sample size, from multiple sites, and with a more controlled design is needed.

This pilot study describes the successful implementation and development of a dedicated palliative cancer care case management program within a managed care organization. The analysis suggests that a case management program can reduce the odds of having any hospital admissions for a Medicaid population. However, those who do get admitted seem to use similar amounts of care. As well, the high rate of enrollment suggests that the OLP intervention was acceptable to most patients. Like many such programs, because of barriers to referral such as the challenges of identifying patients in a timely way, the program is limited by the relatively short time between referral and death for many patients. Utilization outcomes may be useful for determining the potential impact and areas for improvement in such programs, and should be tested with more defined variables and larger samples. Moreover, future research in this area would be enhanced by including patient outcomes such as satisfaction, coordination of care, symptom management, and support to the patient and family. Further understanding the reasons for refusal and the types and purposes of admissions in both groups would also illuminate potential effects of the OLP. Nonetheless, the results of this study support the notion that case managers, in an effective palliative program, may be able to help some patients avoid hospitalizations altogether. Finally, this study and previous evaluations of case management in advanced illness suggest that inpatient admissions are a valuable outcome for measuring their impact.

Further research is needed to identify if additional interventions or services might be helpful to patients with high hospital use despite the cancer case management program.

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Author Disclosure Statement

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